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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,414	11/21/2001	Sang On Park	3449-0179P	9772
2292 7590 05/16/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER AGUSTIN, PETER VINCENT	
			ART UNIT 2627	PAPER NUMBER
			NOTIFICATION DATE 05/16/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 09/989,414	Applicant(s) PARK, SANG ON	
	Examiner P. Agustin	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-3 & 5-11 are now pending.

Election/Restrictions

2. The restriction requirement mailed on June 8, 2006 has been withdrawn, rendering moot the applicant's arguments on pages 6-10.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Son et al. (US 6,282,161).

In regard to claim 1, Son et al. disclose a tilt controlling method (see title) comprising the steps of: detecting a track of a focus error at the maximum value of an RF signal or at the minimum value of jitter when a focus is on (see Figure 6, wherein signals S-inner or S-outer are detected where jitter is minimum); detecting the maximum value and the minimum value of the focus error (note S max and S min in Figure 4); and calculating a variation per track of the focus error by using the maximum and minimum values of the focus error to control the tilt using the variation (see last step of Figure 7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 & 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son et al. in view of Tanaka et al. (JP 08185636A).

For a description of Son et al., see the rejection above. Furthermore, Son et al. disclose: in regard to claim 3, that a tilt reference is varied as much as the variation per track to control the tilt (see last step of Figure 5).

However, Son et al. do not disclose, but Tanaka et al. disclose: in regard to claim 2, calculating a variation per track of the maximum value and the minimum value of the focus error to detect a normalized DC component (see abstract). It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have applied the teachings of Tanaka et al. to the method of Son et al., the motivation being to ensure exact focus alignment to a specified recording layer (see abstract).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiya et al. (US 5,001,690) in view of Hajjar et al. (US 5,627,808).

In regard to claim 10, Kamiya et al. disclose a tilt controlling method (see title) comprising the steps of: wobbling a tilt driving block according to a reference level in a predetermined direction (column 4, lines 4-6: "tilt driving is made periodically in either direction by a predetermined amount"); obtaining an FE track at a point where a RF signal has the

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maximum value (column 4, lines 9-13: "if the RF level has increased as a result of the preceding drive, it means that the driving has been made in a direction in which the tilt error decreases"; column 4, lines 17-19: "direction in which the RF level tends to become maximum").

However, Kamiya et al. do not explicitly disclose, but Hajjar et al. disclose: in regard to claim 10, normalizing a detected FE track (see Figure 5). It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have applied the teachings of Hajjar et al. to the method of Kamiya et al., the motivation being to enable recording/reading from a disc with different cross-track tilt values at a given location (column 4, lines 22-25).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Son et al. in view of Takamine et al. (US 5,805,543).

In regard to claim 11, Son et al. disclose a tilt controlling apparatus (Figure 2) of an optical record medium (11), comprising: a RF and servo error producing unit (32, 34, 26) for producing RF and servo error signals from an electric signal outputted from an optical pickup unit (20); a servo controlling unit (36, 40, 30, 28, 26, 32) having a tilt error detecting and controlling block for receiving RF and focus error signals outputted from said RF and servo error producing unit; and a servo driving unit (patent claim 6: "operating a focus and a tracking servo") for controlling said optical pick-up unit in response to a signal of said servo controlling unit wherein said tilt error detecting and controlling block includes: a RF peak detecting block (32) for detecting the peak of an RF envelope; a detecting block (26) for detecting the maximum and minimum values of a focus error per one rotation of a disk (note S max and S min in Figure 4); and a tilt controlling block (36, 40, 30, 28) for controlling the tilt using the RF signal and an FE signal calculated by using the maximum and minimum values of the focus error.

However, Son et al. do not disclose, but Takamine et al. disclose: in regard to claim 11, producing DC and AC values about tilt initialization and about an optical disk (column 16, lines 51-65). It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have applied the teachings of Takamine et al. to the apparatus of Son et al., the motivation being to minimize an error in an orthogonal relationship between an optical disk and an optical axis of a light beam regardless of sensor degradation and variations in temperature (column 2, lines 51-54; and column 32, lines 62-67).

Allowable Subject Matter

9. Claims 5-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art of record, Son et al., alone or in combination fails to teach or suggest: in claim 5, normalizing the variation per track of the focus error and the surface vibration to control the tilt.

Claims 6-9 are dependent upon claim 5.

Response to Arguments

11. The restriction requirement mailed on June 8, 2006 has been withdrawn, rendering moot the applicant's arguments on pages 6-10.

12. The rejections based on 35 U.S.C. § 112-1st paragraph have been withdrawn, rendering moot the applicant's arguments on pages 11-16.

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Conclusion

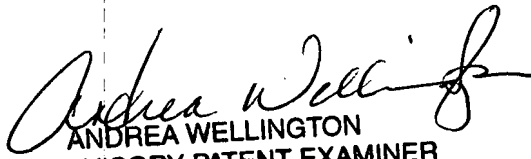
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Thursday 8:30-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER